DRAWING AMENDMENTS

Please substitute the accompanying new sheet 3/15 for the sheet 3/15 presently appearing in the application.

REMARKS

The Official Action dated September 14, 2004 has been carefully reviewed and amendments to this application have been made where believed appropriate.

Clarifying amendments have been made to the Fig. numbers referred to at pages 12, 13 and 14 of the specification to correct obvious errors in the drawing figures referred to there. Similarly in the drawings Figs. 6 and 7 to add the numeral 110 that points to the depiction of the chlorosome designated RC^-.

The examiner's objections to claims 3, 4 and 23 have been noted. These claims have now been cancelled without prejudice. Claims 3, 4 and 23 will be presented in a divisional patent application claiming priority from this application and those claims will be corrected to overcome the examiner's objections. The examiner's careful attention to the language of the claims is appreciated.

The examiner's rejection of claims 1 - 34 under 35 U.S. C. § 112, first paragraph, for failure to be based on an enabling disclosure is respectfully traversed. The examiner states that the manner of preparation of the RC^- chlorosome "is not included in the claim(s) and it is not enabled by the disclosure." The manner of preparation, i.e. isolation of the RC^- chlorosome, is (1) known in the art from e.g., Gerola et al., "A new bacteriochlorophyll *a*-protein complex associated with chlorosomes of green sulfur bacteria," Biochem Biophys Acta, 1986, referenced at page 17, line 20 of the specification, and (2) is described in the specification at page 17, line 20 to page 18, line 11. . A copy of the 1986 Gerola et al. article is supplied with this amendment. The techniques, used by others skilled in the art is recognizable as what is referred to as the Gerola and Olson method or technique See Arellano et al., "Effect of Carotenoid Biosynthesis Inhibition on the Chlorosome Organization in *Chlorobium phaeobacteroides* Strain CL1401,

Photochem. and Photobiol., 2000 (71 (6): 715-723) at page 716 and Zhu et al., "Microscopic and spectroscopic studies of untreated and hexanol-treated chlorosomes from *Chloroflexus aurantiacus,*" 1995, Biochemica et Biophysica Acta, pp 197 - 207 (chlorosomess were isolated by the method of Gerola and Olson (citing Eerola et al., supra.) p. 198, para. 2.13) for writings that support recognition in the art for the Gerola and Olson method. Copies of Arellano et al. and Zhu et al. are enclosed.

The examiner's rejection of claims 1 - 34 as indefinite under 35 U.S.C. § 112 second paragraph has been noted. Claims 27 - 32, 33 and 34 as amended here have been clarified to refer specifically to the RC^- chlorosome. The structure RC^+ is referred to as the whole cell fragment now consistently in the claims and the specification and the RC^- structure is now consistently called the chlorosome. This is a more accurate designation and comports with usage in the art. The clarifications made here are believed sufficient to overcome the deficiency in clarity as perceived by the examiner. It is respectfully urged that this 35 U.S.C. § 112, second paragraph rejection is overcome for the claims continuing to be prosecuted at this time. Cancellation of the claims 1 - 26 without prejudice makes moot at this time the rejection of those claims on this basis it is respectfully urged.

Regarding the examiner's rejection of claims 1 - 6, 8 - 18 and 20 - 34 under 35 U.S.C. § 112, second paragraph as "incomplete," without agreeing that the claims as originally presented were properly rejected under 35 U.S.C. § 112, second paragraph on this basis, each claim now present in this application is specific to the RC^- chlorosome and the rejection is believed overcome with respect to these claims 27 - 32, 33 and 34. Claims 1 - 6, 8 - 18, and 20 - 26, again, have been cancelled without prejudice with the intent to make such amendments as may be necessary and present at least a number of these in a divisional application claiming priority

from this application. Consequently, as to these claims, it is respectfully urged, the rejection on incompleteness is now moot.

The examiner's rejections of claims 1 - 14, 17, 21 and 22 under 35 U.S.C. § 112, second paragraph as indefinite have been noted. Again, without agreeing to the propriety of the rejections the cancellation of claims 1 - 26 without prejudice presently renders these rejections moot.

The examiner's rejection of claims 1 - 26, 33 and 34 as anticipated by the LaBelle thesis "Design feasibility of a nanoscale biophotonic hybrid device," the Pizziconi et al. "Preview before submission, NSF Project Report," the LaBelle et al. "Nanoengineered interface for biophotonic hybrid device components" and the LaBelle et al. "Nanoscale hybrid biosensor," this rejection has been made moot by cancellation without prejudice of claims 1 - 26 and by the amendment of claims 33 and 34 to depend from claim 27 which was indicated as patentable over these writings. Applicant does not acquiesce in the identification of these writings as "prior art" with respect to applicant's inventive subject matter in this application. Applicants reserve the right to show that these writings either were not published as of the applicants' priority date or that applicants conceived the inventive content prior to the date of these writings coupled with diligence to the reduction to practice of the invention or constructive reduction to practice by the filing of the provisional application from which this application takes its priority.

The examiner's rejection of claims 1 - 3, 8 - 11, 15, 17, 20 - 24 and 26 under 35 U.S.C. § 102(b) as anticipated by Miyasaka et al. is noted. Cancellation without prejudice of claims 1 - 3, 8 - 11, 15, 17, 20 - 24 and 26 is believed to make moot this rejection. Applicants do not acquiesce in this rejection but reserve the right to traverse the rejection upon the subsequent filing of claims in one or more divisional or other continuing applications.

The examiner's rejection of claims 1 - 26, 33 and 34 under 35 U.S.C. § 103(a) as unpatentable over the writing of He et al. in Advanced Materials, in view of Miyasaka et al. in Science, and Planner et al. in J. Photochem. and Photobiol. is noted. Without acquiescing in this rejection, applicants urge that cancellation of claims 1 - 26 without prejudice makes moot the rejection as to these claims. Applicants further urge that amendment of claims 33 and 34 to incorporate by their dependency the subject matter of claim 37, which claim 37 was not rejected on the 103(a) basis, overcomes the rejection with respect to claims 33 and 34, now patentable by virtue of their dependency.

The examiner's acknowledgement of the alleged prior art's failing in respect to force adaptation and calculation of a figure of merit is noted with appreciation.

In view of the above, it is respectfully urged that this application is now in condition for allowance and favorable further examination to that end is respectfully requested. Should the examiner have questions, comments or suggestions concerning this application, the examiner is invited to telephone the undersigned attorneys for applicant or to email them at the contact information given below.

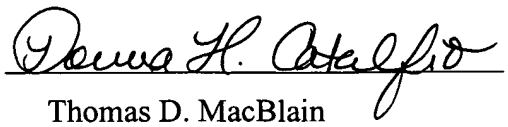
A three month extension of time in which to respond to the Official Action is requested in the accompanying Request for Extension of Time, submitted in duplicate.

Any questions or suggestions regarding the application or the amended claims submitted herewith should be directed to the undersigned attorneys for applicant at the telephone number listed below or by email to the email address listed below.

Respectfully submitted,

GALLAGHER & KENNEDY, P.A.

Date: March 14, 2005

By: 

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